

Final Mitigated Negative Declaration
for the
Contra Costa Canal Replacement Project



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FINAL MITIGATED NEGATIVE DECLARATION

The Contra Costa Water District (CCWD) prepared the *Initial Study/Proposed Mitigated Negative Declaration for the Contra Costa Canal Encasement Project* (IS/proposed MND) to analyze the impacts associated with implementing the proposed project (described below). The document concluded that all significant impacts could be avoided or reduced to a less-than-significant level through the implementation of mitigation measures identified in the document. The IS/proposed MND was circulated for public and agency review beginning in April 2006. Comments on the document from the East Bay Regional Park District and Contra Costa County Flood Control District and meetings with the California Department of Fish and Game, National Oceanic and Atmospheric Administration National Marine Fisheries Service, and U.S. Fish and Wildlife Service led CCWD to modify certain mitigation measures to increase their effectiveness. This final MND presents all the mitigation measures currently identified for the project, including those that are unchanged from the April 2006 document and those new and revised mitigation measures identified through consultation with the resource agencies.

Project: Contra Costa Canal Replacement Project, City of Oakley and unincorporated Contra Costa County, California

Lead Agency: CCWD

Availability of Documents: The initial study for the proposed mitigated negative declaration, along with documents referenced in the initial study, was available for review in the Reading Room of the CCWD offices at 1331 Concord Avenue, Concord, CA; on the CCWD website at www.ccwater.com; and in the Freedom High School Library, at 1050 Neroly Road, Oakley, CA.

Project Description:

CCWD is proposing construction of the Contra Costa Canal Replacement Project, which involves installing up to 3.97 miles (approximately 21,000 feet) of buried pipeline in place of the existing unlined portion of the Contra Costa Canal. The pipeline installation would occur between the trash rack near Rock Slough and Pumping Plant No. 1. Using preliminary engineering design analyses, CCWD recommends that the new pipeline be installed in the U.S. Department of the Interior, Bureau of Reclamation's (Reclamation's) 300-foot canal right-of-way (ROW).

CCWD has prepared an initial study/proposed mitigated negative declaration (IS/proposed MND) on the proposed project in accordance with California Environmental Quality Act (CEQA) requirements. The IS/proposed MND describes the project and its potential impacts on the environment and concludes that any significant impacts that may result from the project can be reduced to a less-than-significant level by adopting and implementing the mitigation measures presented below. The mitigation measures have been incorporated into the proposed project.

Findings: An initial study has been prepared to assess the proposed project's potential effects on the environment and the significance of those effects. Based on the initial study, it has been determined that the proposed project would not have any site-specific significant effects on the environment after the specified mitigation measures are implemented. This conclusion is supported by the following findings:

The proposed project would not have a significant effect related to aesthetics; agricultural resources, land use and planning, mineral resources, population and housing, recreation, or utilities and service systems. The proposed project would not induce growth in the surrounding area.

Mitigation is required to reduce potentially significant impacts on air quality (construction-related diesel fuel emissions and construction dust), biological resources (special-status species), geology and soils (ground failure, soil erosion, unstable soil, and expansive soil), hazards and hazardous materials (construction-related chemical and hazardous spills and accidents), hydrology and water quality (construction-related erosion and sedimentation, stormwater pollution), noise (construction-related noise levels), public services (fire and police emergency services), and transportation/traffic (construction-related increase in traffic, emergency access).

Although the proposed project is not anticipated to disturb cultural or paleontological resources, mitigation is proposed to address the potential for discovering unknown archaeological or paleontological resources or human remains during construction.

In accordance with State CEQA Guidelines Section 15074.1, CCWD is deleting mitigation measures BIO-1 through BIO-9 and PS-2 from the Proposed MND and substituting for them revised Mitigation Measures BIO-1 through BIO-9 and PS-2 and adding new Mitigation Measures BIO-10 and HYD-3 in this Final MND. The measures included in this final MND are equivalent or more effective than the measures included in the proposed MND in mitigating or avoiding potential significant effects and will not cause any potential significant effect on the environment.

The following are the mitigation measures that would be adopted and implemented by CCWD as part of the proposed project to avoid or minimize significant environmental impacts. Implementation of these mitigation measures would reduce all the environmental impacts of the proposed project to a less-than-significant level.

- ▶ ***Mitigation Measure AQ-1: Implement Measures to Control Construction-Generated Air Pollutant Emissions.*** CCWD shall require contractors to implement a dust control program to be approved by BAAQMD that includes various control measures required by the BAAQMD at the time construction occurs. Measures will likely include a combination of the following basic, enhanced, and optional control measures identified in BAAQMD's CEQA Guidelines for dust control programs:

The following basic control measures apply to all construction sites:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.
- Apply water three times daily or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.

- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Enhanced Control Measures

The following enhanced control measures shall be implemented at construction sites that are greater than 4 acres:

- Implement all basic control measures listed above.
- Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more).
- Enclose, cover, water twice daily, or apply (nontoxic) soil binders to exposed stockpiles (e.g., dirt, sand).
- Limit traffic speeds on unpaved roads to 15 miles per hour (mph).
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

Optional Control Measures

The following control measures are strongly encouraged at construction sites that are large in area, that are located near sensitive receptors, or that for any other reason may warrant additional emissions reductions:

- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
 - Install windbreaks, or plant trees/vegetative windbreaks at windward side(s) of construction areas.
 - Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
 - Limit the area subject to excavation, grading, and other construction activity at any one time.
- ▶ ***Mitigation Measure AQ-2: Implement Measures to Control Construction-Generated Toxic Air Contaminant Emissions.*** CCWD shall coordinate with the BAAQMD to develop mitigation measures that would reduce short-term construction-generated TAC emissions, which may include the following:
- Pursuant to BAAQMD Rule 6, the project shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40% opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40% opacity (or Ringelmann 2.0) shall be repaired immediately, and CCWD and the BAAQMD shall be notified within 48 hours of identification of noncompliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for

any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The BAAQMD and/or other officials may conduct periodic site inspections to determine compliance.

- The prime contractor shall submit to the BAAQMD a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 or more hours for the construction project. The inventory shall be updated and submitted monthly throughout the duration of project construction. However, an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours before the use of heavy-duty off-road equipment, the project representative shall provide the BAAQMD with the anticipated construction timeline, including start date, and name and telephone number of the project manager and on-site foreman.
 - CCWD shall use ultra-low sulfur diesel fuel in all heavy-duty off-road equipment.
 - CCWD shall minimize idling time to 10 minutes for all heavy-duty equipment when not engaged in work activities, including on-road haul trucks while being loaded or unloaded on-site.
 - Staging areas and equipment maintenance activities shall be located as far from sensitive receptors as possible.
- ▶ ***Mitigation Measure BIO-1: Conduct Preconstruction Surveys for Nesting Birds and Western Burrowing Owl and, If Present, Conduct Burrowing Owl Passive Relocation When Feasible and Avoid Nest Sites until They Are No Longer Active.*** The project area provides suitable nesting and foraging habitat for birds protected by the Migratory Bird Treaty Act and Fish and Game Code and is known to support breeding burrowing owls. CCWD will implement the following measures to minimize potential impacts on burrowing owls and other protected nesting birds:
- (a) Before any ground-disturbing construction activities begin, CCWD will retain a qualified biologist to conduct focused surveys for burrowing owls in areas of suitable habitat on and within 250 feet of the project footprint if accessible. Surveys must be conducted every year in which project construction activities occur. Surveys will consist of four separate visits (and supplemented if necessary) as detailed in the California Department of Fish and Game (DFG) staff report and Burrowing Owl Consortium Guidelines to avoid direct take. The biologist will concurrently survey for active nests of other protected birds.
 - (b) If no occupied burrows or other protected bird nests are found in the survey area, a letter report documenting survey methods and findings will be submitted to DFG at least 5 days before construction. A monitoring report of all activities associated with surveys for this species will be submitted to DFG no later than 2 weeks after each construction phase is completed. If burrowing owls are observed in the study area, a monitoring report will be submitted to DFG immediately with a copy provided to the California Natural Diversity Database (CNDDDB).
 - (c) If occupied burrowing owl burrows are found prior to the start of construction, impacts will be minimized by establishing a buffer around the burrow of 160 feet or by completing passive relocation according to DFG guidelines during the nonbreeding season (September 1 through January 31). During the breeding season (February 1 through August 31), impacts will be minimized by establishing a buffer around the burrow of 250 feet for all project-related construction activities until a qualified biologist confirms that the nest is no longer active and

DFG concurs, or consultations with DFG specifically allow certain construction activities to continue. The size of the buffer may be adjusted if a qualified biologist and DFG determine that the adjustment would not likely adversely affect the nesting pair. DFG also will be consulted to determine whether it is necessary to temporarily preserve foraging habitat (in addition to the buffer area) until the nest is no longer active. Eviction pending evaluation of breeding status and eviction plans during the nesting season may be permitted upon approval from the DFG authorizing the eviction.

If other protected nesting birds are found on the project site, impacts will be minimized by establishing a nondisturbance buffer zone around the nest in coordination with DFG. Buffer zones will be determined in consultation with DFG and will depend on the species involved, site conditions, and type of work proposed.

Active nests will be monitored by a qualified biologist to determine when the young have fledged and are feeding on their own. DFG will be consulted for clearance before construction activities resume within a nondisturbance buffer.

- (d) If a burrowing owl is observed at the construction site at any time during construction, then exclusion fencing will be used to establish a safe buffer area until the animal can be passively relocated out of the construction area or other appropriate buffer distance is established consistent with DFG guidance. Construction sites in areas that are excavated will remain active and disturbed to ensure that it is highly unlikely that the burrowing owl will return to the construction area.
 - (e) Before construction each year, a worker environmental training awareness program will be conducted by a qualified biologist. The training will include instruction regarding species identification, natural history, habitat, and protection needs. New workers will be provided information from the training program concerning species identification, natural history, habitat and protection needs.
 - (f) CCWD will continue to follow the requirements of the Operations and Maintenance (O&M) Plan for CVP facilities on Bureau of Reclamation lands once the unlined Canal is replaced by a pipeline. This includes ensuring that burrowing owls that locate within the unlined Canal are not affected by ongoing O&M consistent with existing practice. No title transfer of Reclamation property including the unlined Canal is contemplated. In the event of title transfer, appropriate environmental review will be performed and it will include potential impacts on burrowing owl.
 - (g) The uplands portion of the created wetlands described in BIO-9 (see BIO-9) will provide habitat suitable for burrowing owl and this will mitigate any temporary impacts on burrowing owl along the unlined Canal.
- ▶ ***Mitigation Measure BIO-2: Conduct Preconstruction Surveys for Northwestern Pond Turtle, and, If Present, Implement Protection Measures.*** CCWD will implement the following measures to minimize potential impacts on northwestern pond turtles:
- (a) Before any ground-disturbing construction activities begin, CCWD will retain a qualified biologist to conduct focused surveys for northwestern pond turtle to determine the presence or absence of this species on the project site. Surveys must be conducted every year in which

construction activities occur. In addition, a qualified biologist will survey for pond turtles as part of the fish salvage operation (see BIO-6).

- (b) If northwestern pond turtles are not found on the project site, a letter report documenting survey methods and findings will be submitted to DFG at least 5 days before construction.
 - (c) If juvenile or adult turtles are found on the project site, the individuals will be moved out of the construction site with technical assistance from DFG. DFG will determine appropriate handling and transporting methods as well as relocations sites. If a nest is found in the construction area, DFG will be notified immediately to determine appropriate measures to protect or relocate the nest.
 - (d) If a pond turtle is observed at the construction site at any time during construction, then work in the immediate area will temporarily cease while DFG is consulted and the animal is moved to a safe location consistent with DFG guidance.
 - (e) Before construction each year, a worker environmental training awareness program will be conducted by a qualified biologist. The training will include instruction regarding species identification, natural history, habitat, and protection needs. New workers will be provided information from the training program concerning species identification, natural history, habitat and protection needs.
 - (f) A monitoring report of all activities associated with surveys for this species will be submitted to DFG and USFWS no later than 2 weeks after each construction phase is completed.
 - (g) Mitigation as described in BIO-9 will be provided for the potential loss of northwestern pond turtle habitat.
- ***Mitigation Measure BIO-3: Conduct Preconstruction Surveys for Giant Garter Snake, and If Present, Implement Protection Measures.*** CCWD will implement the following measures to minimize potential impacts on giant garter snake:
- (a) Before any ground-disturbing construction activities begin, CCWD will retain a qualified biologist, approved by DFG and USFWS, to conduct focused surveys for giant garter snake to confirm there are no giant garter snakes present in the action area. A preconstruction survey will be conducted by a DFG- and USFWS-approved biologist within 24 hours before the start of construction in any portion of the project site slated for ground-disturbing activities. Preconstruction surveys will be reinitiated if construction adjacent to suitable habitat is suspended for 2 weeks or more and then restarted. If giant garter snakes are present, they will be allowed to move away from construction activities on their own or will be relocated if directed by USFWS. Surveys must be conducted every year in which project construction activities occur.
 - (b) If giant garter snakes are not found on the project site, a letter report documenting survey methods and findings will be submitted to DFG and USFWS.
 - (c) Following the preconstruction survey, and assuming the absence of giant garter snakes, the contractor will mobilize construction activities in this area and will excavate a portion of the berms and install dewatering wells. Construction sites in areas that are excavated will remain

active and disturbed to ensure that it is highly unlikely that the giant garter snake would return and hibernate in the construction area.

- (d) Initial construction activity within giant garter snake habitat will be conducted between May 1 and October 1, the active period for giant garter snakes. If present, potential effects are lessened because snakes are actively moving and can avoid danger. More danger is posed to snakes during their inactive period because they are occupying underground burrows and crevices and are more susceptible to direct effects, especially during excavation activities. CCWD expects to continue construction during the inactive giant garter snake period (between October 2 and April 30) in areas that have undergone fish salvage (see BIO-6), have been dewatered, and are under active construction. If construction continues past October 1, CCWD will notify USFWS and implement the following protective measures:
 - 1. A qualified biologist, approved by DFG and USFWS, shall monitor construction activities from 2 to 5 days per week consistent with DFG and USFWS guidance.
 - 2. A weekly monitoring report shall be sent to DFG and USFWS.
- (e) Any dewatered areas must remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered area.
- (f) Before construction each year, a worker environmental training awareness program will be conducted by a qualified biologist approved by DFG and USFWS. The training will include instruction regarding species identification, natural history, habitat, and protection needs. Colored photographs of the snake will be distributed during the training session for posting on the job site. New workers will be provided information from the training program concerning species identification, natural history, habitat and protection needs.
- (g) Any erosion control matting will not include monofilament or plastic; the matting will be comprised of jute, straw, coconut matting, or other natural fibers
- (h) Monitoring will be performed by a qualified DFG- and USFWS-approved biologist in accordance with established protocols and survey procedures. A monitoring report of all activities associated with surveys for this species will be submitted to DFG and USFWS no later than 2 weeks after each construction phase is completed.
- (i) In the event that a snake is found at the construction site, work in the immediate area will be halted; DFG, USFWS, and Reclamation will be notified, and work will not resume in the immediate area until appropriate corrective measures including moving the animal to a safe location are implemented. The biologist will report any snakes encountered and any incidental take of the snakes to the Chief of the Endangered Species Division at the Sacramento Fish and Wildlife Service Office immediately, within 3 working days.
- j) Mitigation as described in BIO-9 will be provided for the potential loss of giant garter snake habitat.

- ▶ ***Mitigation Measure BIO-4: Conduct Preconstruction Surveys for San Joaquin Kit Fox, and If Present, Implement Protection Measures.*** It is not expected that the San Joaquin kit fox will be encountered during construction. CCWD will implement the following measures to minimize potential impacts on San Joaquin kit fox:
 - (a) 48 hours before any ground-disturbing construction activities begin, CCWD will retain a qualified biologist to conduct focused surveys for San Joaquin kit fox to determine the presence or absence of this species on the project site. Surveys must be conducted every year in which project construction activities occur.
 - (b) If kit fox are not detected on the project site, a letter report documenting survey methods and findings will be submitted to DFG and USFWS, and no further mitigation will be necessary.
 - (c) If kit fox are detected, any potential dens or areas with kit fox sign will be marked. USFWS, DFG, and Reclamation will be contacted immediately.
 - (d) If a kit fox or kit fox den is observed at the construction site at any time during construction, then work in the immediate area where will cease, and USFWS, DFG, and Reclamation will be contacted immediately.
 - (e) Before construction each year, a worker environmental training awareness program will be conducted by a qualified biologist. The training will include instruction regarding species identification, natural history, habitat, and protection needs. Any new workers will be provided information from the training program concerning species identification, natural history, habitat and protection needs.
 - (f) A monitoring report of all activities associated with surveys for this species will be submitted to DFG and USFWS no later than 2 weeks after each construction phase is completed.
- ▶ ***Mitigation Measure BIO-5: Conduct Preconstruction Surveys for California Red-Legged Frog, and If Present, Implement Protection Measures.*** While California red-legged frog is not expected to be encountered during construction, CCWD will implement the following measures to minimize potential impacts on California red-legged frog:
 - (a) Prior to construction activities in the action area, a qualified DFG- and USFWS-approved biologist will survey the right-of-way for California red-legged frogs to determine the presence/absence of the species in the vicinity of Marsh Creek and other wetlands adjacent to the open water of the Contra Costa Canal consistent with direction from USFWS and DFG. If any red-legged frogs are found, DFG and USFWS will be contacted immediately and consulted regarding appropriate action.
 - (b) Before construction each year, a worker environmental training awareness program will be conducted by a qualified biologist. The training will include instruction regarding species identification, natural history, habitat, and protection needs. New workers will be provided information from the training program concerning species identification, natural history, habitat, and protection needs.

(c) If a California red-legged frog is encountered in the project area during construction, then work in the immediate area will cease, USFWS and DFG will be contacted immediately, and the animal will be moved to a safe location.

► **Mitigation Measure BIO-6: Implement Fish Protection Measures.** It is not expected that significant numbers of sensitive salmon, steelhead, or delta smelt will be found during the dewatering of the Contra Costa Canal. These species are subject to significant predation within the Contra Costa Canal as documented by DFG reports. CCWD shall implement the following measures during construction to minimize potential impacts on special-status fish species:

(a) CCWD will secure a Section 1602 Streambed Alteration Agreement from DFG for construction and filling in the portion of the Contra Costa Canal that is unlined as well as construction work within Marsh Creek (see BIO-7).

(b) CCWD will minimize construction impacts through the implementation of a fish salvage operation. As sections of the canal are dewatered, salvage operations for protected fish will be implemented:

1. All personnel involved with fish salvage operations will have a valid scientific collecting permit issued by DFG.
2. Acoustic equipment in combination with sweep and block nets will be used through the section of the canal to be dewatered, allowing fish to vacate toward Rock Slough before placement of a cofferdam and commencement of dewatering. CCWD will secure the work area from sensitive fish consistent with guidance from NOAA Fisheries, DFG, and USFWS. For each phase of project construction, CCWD expects to begin the fish rescue in the spring, assuming that a coffer dam and fish barrier has been constructed in the prior year nonsensitive fish season (July through November).
3. CCWD will coordinate with NOAA Fisheries, DFG, California Department of Water Resources (DWR), USFWS, and Reclamation fish salvage teams to remove and relocate fish trapped in the cofferdam area before dewatering is complete. The use of acoustic equipment in combination with sweep and block nets will minimize the chance that fish would be present in a section of the canal when it is dewatered. A block net will be installed downstream of the proposed construction area, and then acoustical methods through the use of a hydrophone will drive fish upstream. Following the use of hydrophones, sweep nets will be provided that also would keep fish moving upstream, out of the construction area. A block net will be installed outside of the upstream location beyond where the cofferdam will be constructed as soon as the sweeping of the canal is complete.
4. A cofferdam will be built as proposed upstream and, if needed, downstream of the area to be dewatered. The cofferdam and fish barrier will be built during the nonsensitive period for aquatic species (July through November), and the Canal will continue to operate until the fish rescue begins prior to dewatering and draining the Canal. Pumping Plant No. 1 will be used to drain the Canal to the greatest extent possible. Portable electric pumps will be used to dewater the cofferdam area, and the pumps will be screened to protect aquatic species. When the water depth beyond the cofferdam is low enough (estimated to be approximately 2 feet), qualified biologists and/or technicians retained by CCWD will salvage any remaining fish in the construction zone.

5. Specific efforts will be made to reduce collection and handling stress, minimize the time that fish are held in buckets, and to minimize handling stress during processing and release. Fish will be captured using a system of block nets. Fish collection efforts will continue in the area until multiple pass collections document substantial depletion of the fish population. Immediately after collection, fish will be placed in aerated 5-gallon buckets and/or coolers filled with canal water, identified, counted, measured, and transported to a location outside of the cofferdam for release at a location directed by NOAA Fisheries, DFG, and USFWS. Chemical additives may be used in the holding buckets to reduce potential bacterial infection and to lower stress to aquatic species during rescue efforts.
6. All captured fish will be handled pursuant to the standard NOAA Fisheries protocols under the ESA. Standard protocol for the fish rescue operation is that no employee or contractor will remove any fish, either dead or alive, from the site for personal use. In addition, all efforts to reduce the time that live fish are out of the water will be made so as to reduce the chances of incidental take during the fish rescue. All fish are to be promptly returned to the water with the exception of any dead chinook salmon, steelhead, or delta smelt.
7. Chinook salmon, steelhead, and delta smelt will be processed first, according to the procedures discussed below, and released as soon as possible. Up to 50 each of captured chinook salmon, steelhead, and delta smelt and up to 30 each of other captured special-status species (i.e., green sturgeon, longfin smelt, river lamprey, and Sacramento splittail), as well as other nonnative species, will be measured. The use of anesthetics during the handling of these species will help to reduce any potential mortality. Dip nets or buckets will be used to remove fish from the nets and transferred to buckets or coolers for release.
8. If sacrificed or dead fish cannot be positively identified, even after consulting on-site reference materials, the fish will be bagged, labeled, and brought to the laboratory for positive identification. Bagged fish, excluding as much water as is possible from the bag, will be kept as cold as possible, and if not identified on the same day, will be put into a freezer box. Large quantities of fish exceeding 30 individuals for all species other than salmon, steelhead, and delta smelt will be “plus counted.” Salmon, steelhead, and delta smelt will be plus counted after the number of fish exceeds 50.
9. Species name and length data will be recorded on data sheets, and any unidentified fish returned to the laboratory will be labeled with appropriate collection information listed below. Time, date, location, fork length, and gear type will be recorded on the field sheet, along with any other pertinent observations of the fish.
10. During the fish rescue, there is the potential for some fish mortality despite the precautions taken to rescue all fish. If any special-status species suffer mortality, the individuals will be preserved via freezing or placing in a container with 10% formalin solution. Information on time and exact location of any incidental take, the method of take, length of time from death to preservation, water temperature, and any other relevant information will be recorded in writing.
 - i. For any incidental take of delta smelt, the written documentation of the incidental take, along with the specimen(s), will then be delivered to the USFWS Law Enforcement Division via the USFWS’s Sacramento Fish & Wildlife Office (attn: Chief, Endangered Species), or alternative delivery arrangements made.

- ii. For any incidental take of chinook salmon meeting the size-at-date length criteria and identified as either a winter-run or spring-run chinook salmon, or for any incidental take of steelhead, the specimen will be placed in a cooler with ice and held for pickup by NOAA Fisheries. The NOAA Fisheries Sacramento office will be notified via telephone if take of a protected salmonid occurs during the fish rescue. A followup written notification to NOAA Fisheries will include the date and location of the carcass or injured fish specimen, a color photograph, a description of the cause of injury or death, and the name and affiliation of the person who collected this specimen.
 11. After completing the fish rescue, a brief documentation report will be prepared. The report will include information on the personnel conducting the fish rescue, methods used, numbers of each species collected and relocated, length information for nonlisted species, and estimate of the survival of fish immediately after release. Photographs showing the site and rescue operation will be included. Any incidental take of a special-status species will be documented. The report will be provided by CCWD to NOAA Fisheries, USFWS, and DFG within 30 days of completing the fish rescue.
 12. After the initial fish rescue effort is completed, dewatering of the cofferdam would continue while a qualified biologist remains on-site to observe and monitor conditions in the area to be dewatered.
 13. Block nets will be maintained outside of the cofferdam, and it is expected that the noise and turbidity associated with continuous construction activity would discourage use by fish of the canal area adjacent to the construction zone.
- (c) CCWD will minimize construction impacts by constructing bypass pipelines as appropriate for Marsh Creek, Little Dutch Slough, Emerson Slough, and Jersey Slough, which will protect aquatic species:
1. Because of the locally high groundwater table and highly porous/transmissive soils, dewatering of the canal may affect water levels in the adjacent drainages. Temporarily placing the drainages into short pipelines would isolate them from changes to local groundwater levels and is the most efficient method to ensure that the drainages are protected from the dewatering operation associated with removal of the existing structures and construction of the pipeline. The replacement of the canal where it crosses each drainage would involve temporary (4 weeks) placement of a short reach (100–200 feet) of each drainage into a large-diameter bypass pipeline near the canal crossing to protect these water resources while the existing 6-foot by 7-foot concrete box culverts (siphons) are removed and the new pipeline is installed. After the installation, the drainages will be restored to pre-project or original design (for Marsh Creek) conditions. If the drainages are dry at the time of construction, no bypass system will be used.
 2. Temporary construction impacts on Little Dutch Slough, Emerson Slough, and Jersey Slough will be minimized through the use of bypass pipelines if appropriate. A portion or all of these drainages can be dry during the nonrainy season.
 3. Marsh Creek is a permanent watercourse, and the creek is known to be used by fall-run chinook salmon. CCWD will obtain an encroachment permit from the Contra Costa County Flood Control District (CCCFCFD) for work within the Marsh Creek right-of-way. CCWD

Engineering will evaluate the feasibility of jack-and-bore methods below Marsh Creek. If jack-and-bore methods are not feasible and Marsh Creek needs to be open cut, then temporary construction impacts at the Marsh Creek site will be minimized through the use of a NOAA Fisheries-approved bypass pipeline. It is anticipated that the bypass pipeline system at Marsh Creek will be installed between June 1 and October 1 or other appropriate time consistent with the CCCFCD encroachment permit. The new pipeline that will replace the canal siphons under Marsh Creek will be installed while the bypass is operational. Efforts will be made to complete installation of the new pipe near the creek and drainages by October 1, consistent with the requirements of the CCCFCD and NOAA Fisheries. CCWD will consult with NOAA Fisheries during design and development of the bypass pipeline. The pipeline will be wide enough to accommodate adult salmon, will be as short as possible, and will have riffles to facilitate passage, but it also shall be designed to discourage spawning in the bypass. This bypass pipeline will maintain tidal connectivity while the conduit is placed under Marsh Creek. The bypass pipeline will be removed as quickly as possible after construction beneath the creek is completed.

- ▶ ***Mitigation Measure BIO-7: Secure Fish and Game Code Section 1602 Streambed Alteration Agreement and Implement All Permit Conditions, and Preserve, Restore, or Create Riparian Habitat.***
 - a) CCWD will secure a Section 1602 Streambed Alteration Agreement from DFG for construction in the Contra Costa Canal and bed and bank and riparian areas of Marsh Creek and if necessary for Little Dutch, Emerson, and Jersey Sloughs and, as described earlier in the text of Mitigation Measure BIO-6, the filling in of the unlined canal. The definition of streams includes “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flows.” Canals, aqueducts, irrigation ditches, and other means of water conveyance also can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.
 - b) Issuance of the Streambed Alteration Agreement requires compensatory mitigation as described in BIO 8 and BIO 9 below.
 - c) The impacts to Marsh Creek and Little Dutch, Emerson, and Jersey Sloughs are temporary and these crossings will be restored as soon as the new pipeline is completed and within one winter season. Mitigation for temporary impacts will be accomplished through on-site restoration.
- ▶ ***Mitigation Measure BIO-8: Revegetate Drainages with Appropriate Native Vegetation.***
 - a) CCWD will revegetate with appropriate native vegetation (plant, shrub and tree species) all areas along the drainages that are subject to temporary vegetation removal. Revegetation will occur after construction activities are completed in each construction phase. All required planting will be done between October 15 and December 31, or as required by DFG and USFWS, immediately following the year the impacts occurred according to a DFG- and USACE-approved plan.
 - b) CCWD will maintain and monitor the mitigation area for 5 years following the completion of revegetation activities. Monitoring reports will be submitted to DFG and USFWS upon completion of the revegetation implementation with a final report after 5 years. CCWD will maintain an 80% survival rate of each species by the third year after replacement. Replacement

plantings necessary to achieve a survival rate of 80% will also be monitored for a full 5 years. CCWD is responsible for replacement planting to achieve these requirements.

- ▶ **Mitigation Measure BIO-9: Secure Clean Water Act Section 404 and 401 Permits and Implement All Permit Conditions.** CCWD will secure the following permits and regulatory approvals before implementation of any construction activities:

404 Permit (USACE)

Authorization for the fill of jurisdictional waters of the United States will be secured from USACE through the Clean Water Act Section 404 permitting process before any fill is placed in jurisdictional waters of the United States, including wetlands. Timing for compliance with the specific conditions of the Section 404 permit will be in accordance with conditions specified by USACE as part of permit issuance. As required by Section 404, approval and implementation of the wetland mitigation and monitoring plan is expected to mitigate impacts on jurisdictional waters of the United States, including jurisdictional wetlands. Mitigation approved by USACE and the Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) for impacts on the canal, isolated freshwater marsh and seasonal wetland, irrigation/drainage ditches, and human-induced ponded areas would be included in the same mitigation plan. Any mitigation required by USACE will also satisfy the policies and requirements of the USFWS and DFG.

For the full project, CCWD will create no less than 47 acres of waters of the United States for permanent loss of approximately 4 wetland acres and 43 acres of open water, as verified by the USACE on June 20, 2006. Mitigation will be provided at a ratio of 1:1 for created wetlands in increments consistent with project impacts. The created wetlands are expected to be out of kind relative to the 43 acres of open water and 4 acres of in-channel freshwater marsh within the unlined Canal and will have a higher functional value. The first phase of project construction will require approximately 6 acres of wetland creation.

Holland Tract Mitigation Site or Other Appropriate Location Approved by the Resources Agencies

- a) For the full project a mosaic of 47 acres of created wetlands and waters will be created with improved habitat function at the 263-acre Holland Tract mitigation site to achieve minimum waters of United States and wetland creation ratio of 1:1. Holland Tract will also provide habitat that will mitigate any sensitive species impacts (from BIO 1-3). The off-site wetland creation mitigation property will be made available concurrently with each phase of project construction.
- b) A preliminary or conceptual mitigation and monitoring plan (MMP) will be prepared for mitigation implemented off-site that provides guidance on managing and monitoring the mitigation habitat. The MMP will be reviewed and approved by USACE prior to the start of construction. Mitigation habitat will include wetlands, as well as aquatic and upland habitat for wildlife species. The MMP will include standards deemed acceptable by USACE, USFWS, Central Valley Regional Water Board, and DFG and will be provided for their review and comment.

- c) CCWD will fund the perpetual maintenance and monitoring for any USACE, DFG, and USFWS approved wetlands/waters created or purchased at the Holland Tract mitigation site which will be used as mitigation for the Canal Replacement Project.

Contingency Wetland Plan

CCWD will commit to a contingency wetland creation plan consistent with USACE regulations that will provide sufficient created waters of the United States and wetlands for each phase of project construction.

401 Permits (Central Valley Regional Water Board)

Water Quality Certification pursuant to Section 401 of the Clean Water Act will be required as a condition of issuance of the Section 404 permit. Before construction in any areas containing wetland features, CCWD will obtain water quality certification for the project. Any measures required as part of the issuance of the water quality certification will be implemented.

Report of waste discharge pursuant to California Water Code Section 13050 will be required for those waters of the state determined to be nonjurisdictional under Sections 404 and 401 of the Clean Water Act. Any measures required as part of the issuance of the report of waste discharge will be implemented.

CCWD will implement all mitigation requirements determined through the process of obtaining the above permits.

- ▶ ***Mitigation Measure BIO-10: Translocate Suisun Marsh Aster or Other Special-Status Plants That May Be Found in the Project Footprint during Construction.*** A small population of Suisun Marsh aster, CNPS List 1B, is present within the tidal freshwater emergent habitat along the Canal margins just upstream and downstream of the trash rack. This population is located approximately 1,300 feet from a single plant found along Rock Slough within the adjacent Biggs property boundary. Given the nature and purpose of the project the Suisun Marsh aster population and its habitat within the project area cannot be avoided.
 - a) Prior to project construction a qualified botanist or biologist will survey that portion of the unlined Canal that is to be replaced to determine if there are any special-status plant species. To the extent that any such species are found like the Suisun Marsh aster or Mason's lileopsis, then prior to the start of construction the following conditions will be used to within this phase of project construction then conditions 1-4 below will be used consistent with guidance from DFG.
 1. CCWD will harvest the plants to be lost and relocate them to another suitable and equal-sized area off-site that will be permanently preserved through a conservation easement or other similar method; or
 2. Harvest seeds from the plants to be lost, or use seeds from another appropriate source, and seed an equal amount of area suitable for growing the plant off-site that will be permanently preserved through a conservation easement or other similar method.
 3. These mitigation measures shall be completed by a qualified biologist with experience working with the species included in the mitigation.

4. An MMP describing the mitigation and monitoring requirements and performance standards shall be prepared if habitat is preserved or acquired for special-status plant species.

- ▶ ***Mitigation Measure CR-1: Prepare and Implement Requirements of an Archaeological Monitoring and Data Recovery Plan, Monitor Construction in Culturally Sensitive Areas, and Stop Potentially Damaging Work if Archaeological Sites are Uncovered during Construction.*** Before initiating project construction activities, CCWD shall retain a qualified archaeologist to prepare an Archaeological Monitoring and Data Recovery Plan (AMDRP). The AMDRP shall require that a qualified archaeologist be present for all ground-disturbing activities (e.g., excavation, compaction, heavy-equipment operation) that occur within active soils (not fill) on the Holocene/Pleistocene sand mounds identified in the report prepared by Far Western entitled, *A Cultural Resources Study for the Proposed Contra Costa Water District Canal-Encasement Project* (2005).

The AMDRP shall define how archaeological monitoring will be conducted, the protocol to be followed in the event that significant resources are discovered during monitoring, and where and how data recovery will be conducted for any important archaeological resources discovered.

The AMDRP shall specify that before initiating construction or ground-disturbing activities associated with the proposed project, CCWD shall require all construction personnel to be alerted to the possibility of uncovering buried cultural resources. The general contractor and its supervisory staff shall be responsible for monitoring the construction project for disturbance of cultural resources. If any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains, are encountered during any development activities, work shall be suspended and CCWD shall be immediately notified. CCWD shall retain a qualified archaeologist who shall conduct a field investigation of the specific site and recommend reasonable mitigation deemed necessary to protect or recover any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. CCWD shall be responsible for approval of recommended mitigation if it is determined to be feasible. CCWD shall implement the approved mitigation before the resumption of construction activities at the construction site.

After CCWD is notified, work may proceed on other portions of the project site while mitigation of impacts on archaeological resources is implemented.

See Mitigation Measure CR-3 for reducing impacts on the inadvertent discovery of human remains.

- ▶ ***Mitigation Measure CR-2: Prepare and Implement Requirements of a Paleontological Monitoring and Mitigation Program.*** If earthwork occurs adjacent to the open water portion of the canal requiring excavation of native soil to a depth of 15 feet or more, CCWD shall retain a qualified paleontologist to design a Paleontological Monitoring and Mitigation Program (PMMP) before construction. CCWD shall implement the PMMP, if needed, during all project-related ground disturbance. The PMMP shall include construction monitoring; emergency discovery procedures; sampling and data recovery, if needed; museum storage of any specimen and data recovered; preconstruction coordination; and reporting. The PMMP shall specify that if paleontological resources are identified during project construction, work shall be halted within 50 feet of the site until a qualified paleontologist can evaluate the resource. Should avoidance be determined infeasible, other measures (such as data and sample recovery) shall be implemented. Work may proceed on other portions of the project site while mitigation of impacts on paleontological resources is implemented.

- ▶ ***Mitigation Measure CR-3: Implement Procedures for the Inadvertent Discovery of Human Remains, and Stop Potentially Damaging Work if Human Remains Are Uncovered during Construction.*** In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the project site, CCWD's construction contractors shall immediately suspend work within 50 feet of the remains, and the Contra Costa County Coroner shall be immediately notified. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours of making that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign a Most Likely Descendent (MLD) to serve as the main point of Native American contact and consultation. Following the coroner's findings, the MLD and the archaeologist shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. CCWD shall be required to implement any feasible, timely formulated mitigation deemed necessary for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed.
- ▶ ***Mitigation Measure HAZ-1: Keep Hazardous Materials in an Identified Staging Area, and Prepare and Implement an Accidental Spill Prevention and Response Plan during Construction.*** Before construction begins, CCWD shall require the construction contractor to identify a construction staging area where hazardous materials (e.g., fuels, oils, solvents, and lubricants) would be stored during construction. All staging areas containing fuels, lubricants, oils, and solvents for storage tanks and parked vehicles would include containment systems to capture fuels that may spill and would be at least 150 feet away from sensitive streams and drainage paths. Furthermore, CCWD shall require the construction contractor to prepare an accidental spill prevention and response plan, which shall be reviewed and approved by CCWD, that identifies measures to prevent accidental spills from leaving the site and methods for responding to and cleaning up spills before adjacent properties are exposed to hazardous materials.
- ▶ ***Mitigation Measure HYD-1: Prepare and Implement a Storm Water Pollution Prevention Plan as Required by the Central Valley Regional Water Board.*** CCWD shall obtain an individual waiver, as directed by the Central Valley Regional Water Board, to meet all waste discharge requirements (WDRs), including a SWPPP, and for land or surface water application of any water generated during dewatering operations.

No surface water discharge of construction dewatering is anticipated. However, if necessary for construction and if land-based application is inadequate, the contractor would obtain the appropriate permit from the regional water board to ensure that any potential impacts are mitigated to a less-than-significant level and in accordance with permit terms issued by the regional water board.

CCWD shall develop a SWPPP as required by the Central Valley Regional Water Board under the statewide NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. The SWPPP shall include measures identified by the Central Valley Regional Water Board as Best Available Technology Economically Available (BAT) and Best Conventional Pollution Control Technology (BCT) to reduce or eliminate stormwater pollution. The SWPPP shall contain a site map(s) that shows the construction site perimeter, existing and proposed facilities, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project area. The SWPPP must list BMPs that the discharger would use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must

contain a visual monitoring program; a chemical monitoring program for “nonvisible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. The SWPPP shall be available for review or inspection by the Central Valley Regional Water Board. CCWD shall require that the contractor comply with and implement the provisions of the SWPPP. The objectives of the SWPPP are to identify pollutant sources that could affect the quality of stormwater discharges, to implement BAT/BCT control practices in order to reduce pollutants in stormwater discharges, and to protect receiving water quality. The SWPPP may include, but is not limited to, the following elements:

- Temporary erosion control measures (such as silt fences, staked straw bales, detention basins, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) shall be employed for disturbed areas.
 - No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.
 - Sediment shall be retained on-site by a system of sediment basins, traps, or other appropriate measures.
 - Standard operating procedures shall be developed for the handling of hazardous materials on the construction site to eliminate or reduce discharge of materials to storm drains.
 - Storm drains shall be protected from sediment intrusion with the use of straw bales or silt fences.
 - Dirt and debris shall be swept from paved streets in the construction zone before rainfall.
 - Grass or other vegetative cover shall be established on the construction site as soon as possible after disturbance.
- ▶ ***Mitigation Measure HYD-2: Relocate Water Quality Measurement Location during Project Construction.*** Before construction begins, CCWD will consult with State Water Board staff and request to temporarily move the measurement location that determines compliance to Mile Post 0.0 of the Contra Costa Canal (at the juncture with Rock Slough and outside/upstream of the construction area). After completion of the project, the compliance location would return to the present location at PP1, and there will be no impacts on CCWD, DWR, or Reclamation as a result of implementing this project.
- ▶ ***Mitigation Measure HYD-3: Secure Flood Control Encroachment Permit for Construction in the Vicinity of Marsh Creek.*** CCWD will obtain an encroachment permit from CCCFCD for work within the Marsh Creek right-of-way. Open cut construction at the Marsh Creek site, if required because jack-and-bore methods are not feasible, will be completed during the dry season (between June 1 and October 1) or other appropriate time consistent with the CCCFCD encroachment permit. CCWD will restore the creek cross-section to its preproject dimensions after the completion of work at the Marsh Creek crossing, or its as-built condition, at the option of CCCFCD. Conditions related to sensitive species and restoration requirements are described in Mitigation Measures BIO-1 through BIO-10. Construction activities around Marsh Creek will not disturb areas outside of the CCCFCD’s easement. CCWD may require use of CCCFCD’s maintenance access road to access the construction site. In the event of temporary interruption of maintenance access to the downstream end of Marsh

Creek due to construction-related activities, alternate access will be provided for CCCFCD personnel if necessary.

- ▶ ***Mitigation Measure N-1: Equip Construction Equipment with Noise Controls and Maintain According to Manufacturers' Specifications.*** CCWD shall require construction contractors to ensure that, to the extent feasible, construction equipment is properly maintained and equipped with noise control devices, such as mufflers, in accordance with manufacturers' specifications.
- ▶ ***Mitigation Measure N-2: Limit Construction to Hours Permitted by Applicable Standards.*** CCWD shall require construction contractors to limit construction activities to the hours of 7:30 a.m. to 5:30 p.m. Monday through Friday, during which such activities are exempt from noise levels identified in applicable standards. To the extent that contractors work outside of these hours, noise levels will be limited so as not to cause any disruption to nearby residences (see Mitigation Measure N-4 below).
- ▶ ***Mitigation Measure N-3: Arrange Construction Equipment to Minimize Travel.*** CCWD shall require construction contractors to arrange construction equipment to minimize travel adjacent to occupied residences.
- ▶ ***Mitigation Measure N-4: Designate a Disturbance Coordinator for Noise Complaints.*** CCWD shall designate a disturbance coordinator during construction. The disturbance coordinator's telephone number shall be conspicuously posted around the project site and supplied to nearby rural and developing, occupied residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem.
- ▶ ***Mitigation Measure N-5: Prohibit Operation of Loaded Trucks or Bulldozers within 56 Feet of Any Residence.*** CCWD shall prohibit construction contractors from operating loaded trucks or bulldozers within 56 feet of any residence.
- ▶ ***Mitigation Measure PS-1: Prepare and Implement a Traffic Control Plan.*** CCWD shall prepare and implement a traffic control plan for construction activities that may affect road ROW. The traffic control plan shall follow California Department of Transportation standards and be signed by a professional engineer. Measures typically used in traffic control plans include advertising of planned lane closures, use of warning signage, use of flagmen to direct traffic flows when needed, and use of other methods to ensure continued access by emergency vehicles. During project construction, access to existing land uses shall be maintained at all times, with detours being used, if necessary, during road closures.
- ▶ ***Mitigation Measure PS-2: Install Temporary Trail.*** CCWD shall install a temporary trail over the canal at Marsh Creek to minimize disruption to the East Bay Regional Park District trail that connects Marsh Creek North to Big Break while the replacement pipeline is being installed beneath the creek and trail. The temporary trail crossing will have the appropriate fencing or other barriers to separate trail users from adjacent construction activities. CCWD will keep the trail crossing open to the extent that it is safe for use by pedestrians and bicyclists. The East Bay Regional Park District and the public will be notified before any trails are closed for the installation of the replacement pipeline.